

LOW PROFILE ELECTROCHEMICAL CELL

Abstract

An electrochemical cell is disclosed having a membrane electrode assembly (MEA), a first cell separator plate, a second cell separator plate, and a carbon layer with integrated flowchannels. The MEA includes a first electrode, a second electrode, and a membrane disposed between and in fluid communication with the first and second electrodes. The first cell separator plate is disposed on the first electrode side of the MEA and defines a first flow field therebetween, the first flow field being proximate a first frame member. The second cell separator plate is disposed on the second electrode side of the MEA and defines a second flow field therebetween, the second flow field being proximate a second frame member. The carbon layer with integrated flowchannels is disposed at the first flow field, the flowchannels having a flow width that is equal to or less than the width of the webbing between adjacent flowchannels.